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***“The association between Earnings Management and
Corporate Social Responsibility in Greek listed firms”***

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I hereby declare that the work submitted is mine and that where I have made use of another's work, I have attributed the source(s) according to the Regulations set in the Student's Handbook.

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1. ABSTRACT

This research deals with corporate social responsibility and its association with firms' earnings management in Greek listed companies. Testing on a large sample of greek listed firms, we ended up that there is a notably negative correlation between corporate social responsibility and earnings management, specifically when rational managers rule a firm because they are not direct interested parties. On the other hand, we realize that there is a strong association with CSR and earnings Management when stakeholders are governing a company. Existing literature indicates that a company's ownership structure influences the way CSR and earning management interact with each other. In general, our results are in favor of the hypothesis that all companies, independently of its structure or its domination, present their results in an ethical and transparent way.

Keywords Earnings management; Corporate social responsibility; Investor protection; transparent financial reporting; discretionary accruals; Greek listed companies

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Preface

At this part, I would like to express my gratitude to Dr. Stergios Leventis, as my supervisor, and Dr. Alexandros Sikalidis, as my mentor, for their guidance and their patience in order to accomplish this dissertation. Furthermore, I would like to thank the IHU administration for their continuous support and their provision of the databases, which I used in order to complete this study, as well as all the IHU staff that kindly helped me during my thesis. Finally yet importantly, I would like to thank my family, friends, colleagues and my boyfriend for their endless support throughout this tough period of my life, the thesis dissertation.

Contents

1. ABSTRACT	3
Preface	4
2. INTRODUCTION	6
2.1. Literature Review	9
2.2 Hypothesis Development	11
3. RESEARCH MODEL.....	13
3.1. Sample choice	14
3.2. Measurement of CSR and variables	15
3.3. Dependent Variable	15
3.4. Control Variables.....	16
3.5 Display of Models.....	17
4. EMPIRICAL FINDINGS	20
4.1 Empirical Analysis.....	20
4.2. Interpretation of Results	26
5. CONCLUSIONS	29
6. BIBLIOGRAPHY	31
Appendix A.....	37
Calculation of Earnings Management proxies	37
Appendix B	38
Definition of variables	38

2. INTRODUCTION

“Earnings Management is the choice by a manager of accounting policies so as to achieve specific objective.” (Scott 2003, p. 369) Nonetheless, the definition of earnings management is that it occurs when managers use judgement in financial reporting and in structuring transactions to alter financial reports either to mislead some stakeholders about the underlying economic performance of the company or to influence contractual outcomes that depend on reported accounting numbers. (Healy and Wahlen 1999, p.368) There is a great controversy regarding to earnings management and its utility in the procedure of the presentation of the financial statements of a firm. According to the Journal of Accounting and Economics (Vol. 42, issue 3, Dec. 2003) some managers using unethical methods are trying to avoid the reporting of annual losses or to encrypt valuable information. The opposite side argues that these practices are being used in order to disrupt the clarity of the financial information. Opinions, which are in the middle of the above mentioned, state that earnings management is a “tool” which helps whoever uses it, in a way that is efficient or not. The way it will be used depends mostly in the economic situation of the company but in its structure, too.

Many studies have agreed to the beneficial ability of corporate social responsibility (CSR) to a firm and extensively in our lives. The recent years, more and more companies expand the allocation of its recourses to practices classified as Corporate Social Responsibility. Regarding to firms, by investing in CSR they are capable of building a positive reputation and as a result having royal customers. CSR also contributes to the recruitment of new staff; boost employee loyalty and to achieve an organizational growth. These organizations are trying to find a different way to strive for the modern corporation and they differed in their ‘governance form’. In comparison with a non – CSR company, these firms care about the environment and account for their social impact, looking for appropriate management and reporting. (Ioannou and Serafeim 2014) Furthermore, companies can turn it into a competitive benefit, because they can reduce the firm’s waste in order to be an environmental-healthy company and as a result to save more money.

The most analysts concentrated on the costs, which stem from a CSR commitment. Lect. Diana Corina Gligor – Cimpoiu Ph. D tried to approach these costs in a strategical way and ended up that the implementation of CSR requires the firm value maximization simultaneously with the added value of the stakeholders. Opponents of CSR practice do not find an association with socially responsible activities and the profit of the company, so they believe that it is unnecessary to invest in these.

In this research, we analyze in what extent CSR activities towards Greek listed companies are considered an attempt with a view to reduce earnings management and simultaneously strengthen information transparency. Evidence from prior research supports that CSR contributes to earnings management in the way the financial reports are presented. These firms are likely to be more sceptic by the time they make accounting and operating decisions, while they are in line with the 'transparent financial reporting' hypothesis. (Kim et al. 2012) This association is not always sincere because managers who attempt to cover their diplomatic actions can corrupt CSR. (Prior et al. 2008) In order to conclude about this association between earnings management and corporate social responsibility in Greece, we take into account an inclusive approach. By testing for every firm the environmental damage levels for which is responsible, the credit risk, the size considering the total assets, as well as its enterprise value, we are trying to combine – compare them in order to understand the influence of CSR. Moreover, the above studies and many more in which I have not been referred to, strongly claim that there is a strong connection between CSR and earnings management, nonetheless, straightforward proof of an empirical relationship is still under research.

In this analysis, we measure the effect of CSR in earnings management in Greece. For this reason, we based our research on the Truecost environmental score, which shows the companies with CSR activities and the level of these. We take into consideration two similar cases measuring earnings management with discretionary accruals. All data are provided by the Amadeus database, while Athens Stock Exchange (ASE) confirm to us that all these companies are trading. We are going to

use a sample of 68 Greek listed firms, for a five - year period, 2012 until 2016. We find that CSR is obviously becoming more prevalent in the Greek spotlight of companies and it has started to influence earnings management.

The Anglo-Saxon economic model is predominant in UK and USA and we are able to find many articles and papers, which deal with the association of CSR and earnings management. Regarding to stock markets like the Greek one, there is limited literature. (Kapopoulos and Lazaretou 2007). What makes it worth to examine the Greek market case, is that it is an one of a kind about the integration of CSR activities on its earnings management system because these practices were not known until recently and they are coming from foreign - different economic systems. According to a research made by Aravossis & Panayiotou in year 2008, there were 28 companies with CSR reports, which were listed in Athens Stock Exchange. Nowadays, this number has tripled and we are capable of having more accurate results about the volume of these activities. Our analysis offers a lot to the current literature concerning earnings management. Firstly, even though a few researches have been carried out, which concern primarily US and UK data about the correlation between CSR and earnings management, as far as we know, there is not any report in Greece that analyzes this topic. This means that our outcome will benefit the growth of knowledge concerning this issue and it will increase the empirical data about this influence in the case of a micro - market like Greece. Secondly, our results could give insight to associates with valuable knowledge about earnings management. Finally yet importantly, this research could be useful to everyone who deal with financial decisions since it examines a rising issue of financial reporting along with CSR practices.

The rest of this research is composed as follows. Firstly, we shortly refer to the literature as well as to the hypothesis development. Then the research model follows along with the empirical results. At the final stage, we analyze our complete conclusions and the limitations of this study.

2.1. Literature Review

Concerning to the literature on the connection between CSR and earnings management, there are inadequate researches and the results differ depending on the case. Many studies which investigate this association between CSR and financial reporting practice, firstly based on the strategic incentive of CSR inside an organization. Earnings management is best described as the actions of management with a view to depreciate the value of the financial statements (Kinney Jnr, Palmrose & Scholz 2004). According to Fields, Lys and Vincent (2001) it is more possible to detect earnings management in the case that the manager handles with prudence the accounting numbers. Moreover, the belief of managers is that the only case in order to involve in earnings management is the case of not completely adapting the accounting numbers to extract the effect of earnings management. The quality of revenue is reduced along with the ability to forecast future income and cash flows (Lev 2003). The most of the time, investors have been misguided due to earnings management and this is not acknowledged as ethical (Kaplan 2001).

According to Lev et al. (2010) companies will not extensively finance corporate social programs unless this adds financial worth. A research carried out by Prior et al. (2008) examines the possibility that firms incorporate CSR with a view to influence earnings management. Concerning to monitored firms, their findings indicate a beneficial association between earnings management and CSR; on the other part, this outcome is not valid for unmonitored firms. This happens because the unmonitored firms present immaterial results composing greater than 80 percent of the sampling and making their documentation less effective.

In contrast with the unmentioned studies, Kim et al (2012) targets to the moral concerns of an organization, which is a different version about the influence of CSR in financial reporting. Unlike with the others, Kim et al (2012) investigates unmonitored firms supplying us with a common clue about the association between CSR and financial reporting activities, which are restricted, only in U.S.A. Chih et al.

(2008) used global evidence (1.653 corporations in 46 countries) in order to analyze CSR and earnings management having as a result the conflicting results depending on the framework. They found out that there are three types of earnings management: “earnings smoothing, earnings aggressiveness and earnings losses and decreases avoidance.” The impact of CSR in earnings management depends on the type that the companies incorporate. When the companies focus on CSR activities the degree of “earnings smoothing” diminishes along with “earnings losses and decreases avoidance” and in contrast with “earnings aggressiveness” which arises.

Regarding earnings management and the impact in the owners of a firm, the truth is that it affects stakeholders too. Stakeholders have invested in firms and they are recognized as a group that “bear some form of risk as a result of having invested some form of capital, human or financial, something of value, in a firm” (Clarkson, 1995). The meaning of this is that manager’s actions in our case earnings management, which misdirect the stakeholders of the true value of company’s economic position, have a great impact for all the parts of the company and in society in general (Zahra et al., 2005). In the case that the shareholders become aware of earnings management, the company’s stock market value falls down at once (Dechow and Sweeney, 1996). Similarly, bonds will their financial worth and by extension, bondholders’ revenue will decrease. Additionally, banks will face problems regarding the return of the lending money because they have relied on inflated income predictions (DeFond and Jambalbo, 1994). The employees are influenced by these earnings management’s techniques, too. Depending on the country, there are different mechanisms in order to protect investors as well as different legislation concerning CSR (Reinhardt et al. 2008). The decisions in the United States corporations are made by its board of directors, or by administrators. This happens with a view to establish a regime of transparency inside the companies and to make sure that the senior executives or the stakeholders do not act for their own benefit.

The research of D’Souza et al. (2000) investigates the alliance between

earnings management and costs of labor and discovered that people who run the businesses try to decrease the labor cost per union during the report of earnings and the agreements. In this way, they manage to diminish the total labor costs of the company. Finally, an important point of Zahra et al is that when numbers are reported, they should present the real economic situation of a company, because if they are misrepresented the firm will lose its purity in markets and in society in general.

Because of the uncertain evidence from previous surveys concerning to the association of CSR and earnings management, it is not easy to come to clear conclusions about the essence of this connection. Nonetheless, Francis et al. (2008) investigates the connection between the voluntary and supplementary financial disclosure and earnings management. A self-made disclosure statement and a sample of 677 United States companies were used and they concluded in a supplementary relationship between the quality of earnings and voluntary financial publication, e.g. the greater quality earnings are these of firms with more voluntary disclosures– or, otherwise, decreased earnings management. Additionally, Han et al. (2010) find that the avoidance of doubtfulness and the individuality of global culture driving us to the conclusion that the association between these two elements varies accordingly to the degree of investor security.

2.2 Hypothesis Development

CSR has not an official definition, although Carroll's (1979, 1991) interpretation is the one that is widely known, as well as accepted: "The social responsibility of business encompasses the economic, legal, ethical, and discretionary expectations that society has of organizations at a given point in time." Garriga and Mele' (2004) have distinguished CSR into four groups: (1) economic responsibilities, (2) legal responsibilities, (3) ethical responsibilities and (4) philanthropic responsibilities.

Many studies have been done concerning CSR and earnings management, one of them is the research of Gargouri et al. (2010), but most of them have failed to come to a valid conclusion due to lack of data. The nature of the data is another factor that makes it difficult because of the hard transformation of discretionary accruals. Ethical theories have connected CSR with the social responsibility of a firm. Specifically, this alliance is believed that improves firm's financial performance, decreases operating costs and overall boosts profits. A research made by Adam Smith (2012) focuses on the integration of the ethical side of CSR with its practical side, specifically the managerial one of the stakeholder theory (Mele 2009, Parmar et al. 2010). Moreover, an evolution has been done in order to engage CSR with stakeholders' theories, which is based on financial and ethical statements. As an example, Phillips (2003) proposed the concept of "stakeholder legitimacy" and proposed the circumstances under which the stakeholders have authority into the organization.

Stepping into political theories, it is suggested that wherever the company is established, it should take care of the society and try to find out ways for community's improvement. On the other hand, integrative theory is opponent of the notion that a company should incorporate its business into the social needs and to integrate social demands into their business because in this way, it will be developed an interrelated relationship between the success of society and company. A respectable number of earlier studies depends on this opinion (Carroll 1979; Wood 1991; Swanson 1995; Agle and Mitchell 1999).

At this point, we should be referred to 'instrumental theories', like the one Friedman (1970) has developed and after its publication, many academics responded to his view in a positive way. In specific, Friedman was proponent of the thought that managers have the responsibility to increase company's welfare and by extension stakeholders'. According to this theory, any CSR activity that is going to raise profits is acceptable. (e.g., McWilliams and Siegel 2001; Mackey et al. 2007).

Taking into consideration the above theories – opinions, we have ended to the following hypothesis, which supports the fact that a CSR company has a negative

association with earnings management. While previously, we focused on the social impact of CSR on earnings management, there are also other important reasons which explain this negative association. In specific, the company's reputation is one of the main reasons together with firm's profitability. CSR operates as an indicator concerning the reputation of an enterprise (e.g., Fombrun and Shanley 1990). This notion prevents managers from involving in improper activities.

Considering all these, there is also the opposite opinion, which supports that CSR has a positive association with earnings management. Numerical studies (e.g., Waddock and Graves 1997; Roman et al. 1999) indicate a positive association between CSR and financial performance. They supported that managers by interconnecting with CSR might pursue their personal interests than these of firms' or of stakeholders'. One of the most known theories, the one that CSR is aligned with company's targets (McWilliams et al. 2006), indicates that CSR has become an essential part of business' strategies, so it should be denoted as an investment which will strengthen its reputation. Taking this theory a little further, according to Hemingway and MacLagan (2004), firms adopt CSR in an effort to cover up any implication or firms' misbehavior. From stakeholders' perspective, they have the belief that the company's reports are transparent, while simultaneously firm is connected with earnings management.

This motivation is in accordance with the theory of Prior et al. (2008), who is proponent of the positive association between CSR and earnings management, because managers are tempted to misrepresent stakeholders regarding the welfare and the financial performance of the firm.

3. RESEARCH MODEL

In this part, I demonstrate the research model for this dissertation. It is composed of the sample, the variables' definitions and clarification for the selection.

3.1. Sample choice

The primary sample is composed of non – financial companies with stocks in the Athens Stock Exchange (ASE) during 2012 ($n = 205$). We are going to analyze the five-year period 2011 to 2016, so the definite sample has been constructed as below:

In order to end up to the final sample, companies from the Alternative Market and the banking sector are rejected because they are proved problematic to our measurements according to the relevant literature. Firms that belong to insurance market and brokerage sector are also not appropriate for our measurements along with companies with low dispersion ($n=10$). The companies that are going to be deleted from Athens Stock exchange ($n=10$) are excluded, as well as these which are under investigation ($n=30$) or temporarily not available ($n=28$). Finally, my purpose is to analyze firms with CSR, so the companies which are not active in this area are outside of my sample, too ($n=58$). Therefore, my eventual sample is relied on 69 non-financial companies.

All the necessary information regarding variables has been obtained from Amadeus Database and when needed from the companies' websites and financial reports. Additionally, ASE's website was used in order to gather data about Corporate Social Responsibility and their earnings management behavior.

Table 1: Sample Choice Criterion

<i>CRITERION</i>	<i>FIRMS</i>
<i>MAIN MARKET</i>	205
<i>Low Dispersion</i>	10
<i>Under Suspension</i>	28
<i>Under Deletion</i>	10
<i>Under Surveillance</i>	30
<i>Non - CSR active</i>	58
<i>Total Sample</i>	69

3.2. Measurement of CSR and variables

In this part, we explain how we measure the main and the secondary control variables. Then it follows the presentation of our empirical models.

3.3. Dependent Variable

Earlier researches on earnings management (e.g., Jones 1991; Subramanyam 1996; DeFond and Subramanyam 1998; Kothari et al. 2005) use discretionary accruals as proxies for the measurement of earnings management and quality of earnings. For this reason, we apply discretionary accruals as our first proxy for earnings management. According to the study of Kothari et al. (2005), return on assets (ROA) is included in order to monitor the effect of the efficiency of measured discretionary accruals. With a view to do this, we work with the absolute value of discretionary accruals, in our case (EIT), because earnings management can be associated with raises or concerning accruals (Warfield et al. 1995; Klein 2002). In the case that our outcome is in accordance with the transparent financial reporting (non-transparent financial reporting) theory, we anticipate a negative (otherwise positive) association

between Corporate Social Responsibility and Earnings Management (absolute value of discretionary accruals).

3.4. Control Variables

According to earlier researches, control variables like the volume of the company, profits, debt, growth opportunities, main activity and liquidity can affect the company's transparency of its financial reports. Our most important control variable in both scenarios is CSR_SCORE, which measures the level of corporate social responsibility inside each firm. SOLR, the solvency ratio, calculates firm's ability to meet its debt and other liabilities and duties. This ratio shows whether a company has sufficient cash flow in order to correspond to these obligations. If it is low, it means that the company probably will fail to pay its debts. The ROA is measured as net income to total assets and in our case, we use profit and losses before tax presented in % percent. This ratio shows how successful a company is, concerning its total assets and generally its profits. (Chen et al, 2010). According to Tian and Estrin (2008) ROA measures more effectively profitability than the measurement of return on sales because the fact that the results are repeated will be more helpful to our analysis.

Furthermore, other control variables synthesize our analysis, which are considered as explanatory and secondary variables. To begin with the variable REPRISK, which I use in order to recognize the level of corporate social responsibility of every firm. The REP RISK AG is a tool that is used by the companies to help them find and monitor risk regarding environmental, social and corporate governance issues because these factors could influence their reputation. Moreover, the variable CRIF_SCORE is included in our measurements, which give us information about the credit level of the firm and its ability to pay its loans, as well as keep records of a loan repayment. This variable is useful to our research because if this credit score is high it means that the company has to repay its loans and by extension, it is prone to earnings

management. SIZE is a proxy that help us define the size of the firm. Usually, the size is measured with the logarithm of a firm's total assets or this of the market value of equity (Chen et al, 2010). In our study, we use the market capitalization to measure the size of each firm, which is close to market value of equity. The control variable MB depicts the market-to-book equity ratio is useful in our research because it gives us indicatives about the value of the company. Additionally, we use as a control variable the ENT_VALUE, which contains information about each enterprise value. As a last thing, dummies are included to control for year fixed effects in corporate social responsibility activities during the years 2011–2016. if the year drops within a particular year, the dummy takes the value of 1, alternatively is 0.

3.5 Display of Models

With a view to analyze the association between the corporate social responsibility and earnings management, in sequence with Kothari et al. (2005) and Jo and Kim (2007), we are going to use discretionary accruals . In specific, we are adapted to a model used by Kothari (2005) and make the estimations of discretionary accruals. In order to do that we take into account the absolute value of discretionary accruals, which help us calculate earnings management. Earlier researches of Klein 2002 and Kim, et al. 2012 also help us to our analysis.

Following earlier studies (e.g., Teoh et al. 1998; Chan et al. 2008), a cross-sectional OLS model is run like equation (1) for every company with a view to estimate earnings management (EIT).

$$(1) \text{ EIT}_t = \alpha_i + \beta_1 \text{CSR_SCORE}_{i,t} + \beta_2 \text{ROA}_{i,t} + \beta_3 \text{SOLR}_{i,t} + \beta_4 \text{REPRISK}_{i,t} \\ + \beta_5 \text{CRIF_SCORE}_{i,t} + \beta_6 \text{MB}_{i,t} + \beta_7 \text{ENT_VALUE}_{i,t} + \varepsilon_{i,t}$$

Where:

EIT_t = absolute value of discretionary accruals where discretionary accruals are computed using the below modified Jones model including lagged ROA as a regressor;

$$TAit / Ait-1 = \alpha_0 (1 / Ait-1) + \alpha_1 (\Delta REVit - \Delta RECit) / Ait-1 + \alpha_2 PPEit / Ait-1 + \alpha_3 IBTit-1 / Ait-1 + \varepsilon it,$$

* $CSR_SCORE_{i,t}$ = Trucost environmental score¹ which shows how big is the company's environmental damage which results from its business activities.

$ROA_{i,t}$ = the return on the total assets (ROA) for firm i at year t, which is determined as net income divided by total assets .

$SOLR_{i,t}$ = the Solvency Ratio and is measured by net income plus depreciation divided by short – long term liabilities.

$REPRISK_{i,t}$ = it shows the level of corporate social responsibility in every firm

$CRIF_SCORE_{i,t}$ = give us indications about the credit level of the firm

$MB_{i,t}$ = market-to-book equity ratio, measured as MVE/BVE, where BVE is the book

$ENT_VALUE_{i,t}$ = it is the enterprise value of the company

The regression of equation (1) produces some residuals, which calculates the discretionary accruals.

i and t are the subscripts which symbolize firms and year accordingly; α stands for the constant term, β_1 to β_7 use is as slopes while ε is the error term of the model; EIT is the earnings management measure as stated above.

* The score measures six factors: 1) greenhouse gases 2) water 3) waste 4) air pollutants 5) pollution of land and water 6) use of natural resources

Additionally, to analyze our alternative hypothesis and to measure the scenario of calculating firms' size with the natural logarithm of the market value of equity instead of MB and we run the coming supplementary regression model:

$$(2) \ EIT_t = \alpha_i + \beta_1 CSR_SCORE_{i,t} + \beta_2 ROA_{i,t} + \beta_3 SOLR_{i,t} + \beta_4 REPRISK_{i,t} + \beta_5 CRIF_SCORE_{i,t} + \beta_6 SIZE_{i,t} + \beta_7 ENT_VALUE_{i,t} + \epsilon_{i,t}$$

Where:

It remains the same as (1) but in this scenario we replace the $MB_{i,t}$ with $SIZE_{i,t}$.

Then, our linear regressions are applied to panel data for the appropriate display of our data. Panel data applicate time series and cross-sectional components in order to contain information regarding time and space. This is very important because observations of various phenomena are included in panel data and they have been acquired during different time period for the same companies from which many benefits stem. In the first place, it makes it easy to investigate many and more complicated issues. We were not be able to manage this with time series or cross-sectional separately. In the second place, it would be problematic, if we were in need of analyzing variables and their association, which changes continuously, applying series data or cross sectional data. The use of time series data demands the switching of data in order to get an acceptable sum of measurements and to be in the position to take care of critical hypothesis tests. In such a manner, we are able to strengthen our test results by using both cross-sectional and time series and having as a result the processing of information for large entities simultaneously. The fact that if we use only time series can be 'produced' multicollinearity is a problem that can be defeated by the combination of the two above mentioned methods, along with the decrease of losses, which occurs if data are processed solely. Moreover, bias can be avoided because we are responsible for the design of our model in an appropriately way having also as a result the deletion of the influence of specific forms of biased variables in

regression outcome. Taking all into account, it is reasonable to use panel data for 69 companies within a six year period from 2011 to 2016. We are going to use the Ordinary Least Squares (OLS) method in order to carry out our analysis.

4. EMPIRICAL FINDINGS

In this part of our study, we present our results of the empirical analysis, which is composed of descriptive statistics, Pearson correlations and regression findings following the explanation of these.

4.1 Empirical Analysis

To begin with, the empirical analysis, we present below the explanatory statistics of our variables in Table 2.

Table 2: Short statement of Descriptive Statistics

	EIT	CSR_SCORE	ROA	SOLR	REPRISK	CRIF_SCORE	ENT_VALUE	SIZE	MB
Mean	0.008759	1.116189	-0.012292	3.375062	0.081889	55.07323	25131.72	14.96965	-0.002764
Median	-0.021687	0.615000	0.004700	3.758350	0.000000	59.05000	4570.558	1.230000	0.004092
Maximum	0.862310	6.592000	4.834000	8.633800	2.400000	84.90000	407672.6	220.3630	0.601421
Minimum	-0.112320	0.251000	-6.057500	-9.919500	0.000000	0.000000	0.000000	0.000000	-0.882222
Std. Dev.	0.117292	1.298814	0.952124	3.305989	0.392704	19.16155	63647.35	38.23801	0.153967
Skewness	0.492021	0.260030	-0.095249	-0.098700	0.496497	-0.074685	0.409976	0.370068	-0.236693
Kurtosis	2.992042	1.039798	1.303150	0.452654	2.686535	0.295124	2.043452	1.734100	2.172847

Number of observations: 254; Period : 2011-2016; CSR_SCORE it measures the level of corporate social responsibility inside the firm; ROA that is calculated as net income divided by total assets; SOLR, is the solvency ratio and it measures firm's ability to meet its debt; REPRISK, it shows the level of corporate social responsibility in every firm; CRIF_SCORE which give us indications about the credit level of the firm; MB market-to-book equity ratio, measured as MVE/BVE, where BVE is the book value of equity; ENT_VALUE is the enterprise value of the company; SIZE, the market capitalization which depicts the size of the firm;

The results of the Table 2 are analyzed further and it expresses that the mean value of the dependent variable (EIT) is 0.008759 while the standard deviation is 0.117292. EIT fluctuates between -0.112320 and 0.862310. Regarding control variables, the mean and the standard deviation respectively, of the variable CSR_SCORE are 1.12 and 1.30 of ROA are -0.01 and 0.10. Moreover, the mean values and standard deviations of the rest control variables SOLR, REPRISK, CRIF_SCORE are 3.37 and 3.31, 0.08 and 0.39 and 55.07 and 19.16, regarding ENT_VALUE are 25131.72 and 63647.35, concerning SIZE are 14.97 and 38.24 and 0.003 and 0.15 are those of MB's. Lastly, the control variables in the order that they have stated above fluctuate between 2.99 the highest and 0.29 is the lowest.

The next phase of our study contains the evaluation of the correlation coefficients among the variables. Our data are displayed in the Table 3 below.

Table 3: Pearson Correlation

	EIT	CSR_SCORE	ROA	SOLR	REPRISK	CRIF_SCORE	ENT_VALUE	SIZE	MB
EIT	1.000								
CSR_SCORE	-0.156	1.000							
ROA	-0.010	0.014	1.000						
SOLR	-0.051	0.159	0.377	1.000					
REPRISK	-0.007	-0.125	0.066	0.005	1.000				
CRIF_SCORE	-0.022	0.159	0.644	0.413	0.088	1.000			
ENT_VALUE	-0.053	0.031	0.045	-0.028	0.177	0.110	1.000		
SIZE	-0.075	0.089	0.168	0.158	0.244	0.231	0.736	1.000	
MB	0.042	0.057	0.119	0.540	0.005	0.137	-0.018	0.014	1.000

Number of observations: 254; Period : 2011-2016; CSR_SCORE it measures the level of corporate social responsibility inside the firm; ROA that is calculated as net income divided by total assets;

SOLR, is the solvency ratio and it measures firm's ability to meet its debt; REPRISK, it shows the level of corporate social responsibility in every firm; CRIF_SCORE which give us indications about the credit level of the firm; ENT_VALUE is the enterprise value of the company; SIZE, the market capitalization which depicts the size of the firm; MB market-to-book equity ratio, measured as MVE/BVE, where BVE is the book value of equity;

The correlation coefficient among the variables in the model is presented in the table 3 above. Our correlation is in accordance with Spearman's correlation coefficient. An analysis of table 3 indicates that the correlation coefficient between the main variables CSR_SCORE, ROA and SOLR is negative. Their impact is not the same because CSR_SCORE and SOLR (as we will conclude from the next tables) are statistically significant at the 5% level, while ROA is not statistically significant at the 5% level. As a result, regarding CSR_SCORE and SOLR, if there is a positive (negative) change in one variable by one unit will lead to a negative (positive) change of the other variable by 0.159 units. Regarding ROA and CSR_SCORE along with SOLR, there will be no impact because of ROA's no significance. Additionally, concerning EIT and ROA the correlation coefficient equals to -0.01 which means that there is a negative association between the two variables. If we increase (decrease) the variable by one unit will have as a result the reduction (raise) of the other by 0.01 units. CSR_SCORE and ROA are positively correlated with a coefficient that is equal to 0.01. Like above, this means that when a positive (negative) change occurs in one of these variables and by one unit, a positive (negative) change will take place concerning the other variable by 0.01 units. Lastly, EIT is negatively related with the control variables SOLR, REPRISK, CRIF_SCORE, ENT_VALUE, SIZE except from MB variable. On the other hand, the dependent variable ROA is positive correlated with all the control variables, so a positive (negative) change by one unit in one of these variables will cause the corresponding positive (negative) change in the other.

The third phase of our analysis presents the results of the regressions. Firstly, regression model (1), in which EIT is the dependent variable and CSR_SCORE is the explanatory variable in addition with all the other variables that we have mentioned many times before, is calculated. The estimation of the coefficients have been occurred with the ordinary least squares method (OLS) as established in Table 4 below.

Table 4: OLS Regression Results Model (1)

Dependent Variable: EIT

Method: Panel Least Squares

Variable	Coefficient	t-Statistic
CSR_SCORE	0.013930	-9.407640 (0.0000)
ROA	-0.000787	-0.138886 (0.8897)
SOLR	-0.003313	-4.171626 (0.0000)
REPRISK	-0.006122	-1.038841 (0.0026)
CRIF_SCORE	0.000242	1.434924 (0.1526)
MB	0.072824	5.676905 (0.0000)
ENT_VALUE	-9.04E-08	-1.774394 (0.0002)
C	0.178854	2.675764 (0.0080)
Adjusted R-squared	0.602494	

Number of observations: 254; Period : 2011-2016; CSR_SCORE it measures the level of corporate social responsibility inside the firm; ROA that is calculated as net income divided by total assets; SOLR, is the solvency ratio and it measures firm's ability to meet its debt; REPRISK, it shows the level of corporate social responsibility in every firm; CRIF_SCORE which give us indications about the credit level of the firm; MB market-to-book equity ratio, measured as MVE/BVE, where BVE is the book value of equity; ENT_VALUE is the enterprise value of the company

As we can conclude from the table above variable CSR_SCORE and ROA have a coefficient of 0.013930 and -0.000787 respectively while their probability is 0.0000 and 0.8897. Regarding the coefficient of the independent variable CSR_SCORE is statistically significant at the 5% level because the p-value of its coefficient is less than 5% and its coefficient has positive value. Additionally, we can conclude that because

the Corporate Social Responsibility variable is statistically significant, the companies with CSR activities are certainly associated with earnings management. The fact that the coefficient is positive indicates that if we use the dependent variable EIT will prove us that firms who have added to their activities CSR are more prone to earnings management than these, which have low level of CSR or even not at all. In the case that our coefficient would be negative proves that companies with CSR tend to have more earnings management incentives and by extension present their financial reports with less transparency in accordance with the EIT 'mark'. In our analysis, the coefficient of CSR_SCORE is positive, as above-mentioned, and it resulted in the expectation that this variable will positively influence the dependent variable of our model. For this reason, if we increase (decrease) the main control variable CSR_SCORE will bring about an increase (decrease) to our dependent variable EIT. Moreover, we observe that the coefficients of the control variables CRIF_SCORE and MB have a positive value, they are 0.000242 and 0.072824 respectively, but MB is statistically significant at the 5% level because the p-value of its coefficient is 0.0000 less than 0.05, having as a result the positive association with our dependent variable EIT. MB and EIT have a positive relationship. On the contrary, CRIF_SCORE is not statistically significant at the 5% level. This means that a possible change of its value will not cause any effect on the dependent variable EIT. In contrast with this, concerning the coefficient of the control variable CRIF_SCORE an alternation in its value will not have an impact on the dependent variable EIT. The same is true regarding ROA. On the other hand, because of having negative coefficients the variables SOLR, REPRISK and ENT_VALUE and they are also statistically significant at the 5% level, when an increase (decrease) occurs will have as a result the opposite to our dependent variable EIT. It is worth to mention that if we exclude the variables which are not statistically significant from our model and recalculate it, the level of statistical significance of the other variables will not remain the same. We can assume that there is an interior relationship between all the variables, which provides evidence for further research. As a last thing, we notice the price of R-squared is 0.602494 or 60%, further analysis about this factor is followed into the next part.

We have come to the last part of our empirical analysis, which is composed of the calculation and analysis of the coefficients of model (2). This model is slightly different because we replace the variable MB with SIZE. Like before, the estimation of the coefficients have been occurred with the ordinary least squares method (OLS) as established in Table 5 below.

Table 5: OLS Regression Results Model (2)

Dependent Variable: EIT
Method: Panel Least Squares

Variable	Coefficient	t-Statistic
CSR_SCORE	0.013917	-8.49713 (0.0000)
ROA	-0.001241	-0.200104 (0.8416)
SOLR	-0.001054	-2.309283 (0.0218)
REPRISK	-0.004128	-1.972192 (0.0497)
CRIF_SCORE	0.000220	1.207348 (0.2285)
ENT_VALUE	-2.17E-08	-1.004854 (0.3160)
SIZE	-0.000158	-3.532831 (0.0005)
C	0.117433	1.772787 (0.0775)
Adjusted R-squared	0.601918	

Number of observations: 254; Period : 2011-2016; CSR_SCORE it measures the level of corporate social responsibility inside the firm; ROA that is calculated as net income divided by total

assets; SOLR, is the solvency ratio and it measures firm's ability to meet its debt; REPRISK, it shows the level of corporate social responsibility in every firm; CRIF_SCORE which give us indications about the credit level of the firm; ENT_VALUE is the enterprise value of the company; SIZE, the market capitalization which depicts the size of the firm;

As we can conclude from the Table 5 above, the coefficient of the control variable CSR_SCORE is positive and statistically significant at the 5% level, which mean that there is a positive association between CSR_SCORE and EIT, like the results of the first regression and this fact validates the model. Moreover, in this model, the variable SIZE has a negative coefficient, while in model (1) MB had the opposite. It is also statistically significant at the 5% level and this indicates that there is a negative association with EIT. The other variables ROA, SOLR, REPRISK and ENT_VALUE act like in the previous model (1). What is valid for the one variable is also valid for the other. However, we should stress that the control variables SOLR and REPRISK, because of their statistically significance, influence positively or negatively our dependent variable EIT and for this reason they are very important for our model. Finally yet importantly, the price of R-squared has slightly changed in comparison with the model (1). It's price is 0.601918 or 60% and the low levels of R-squared indicate that the security is not acting like the other shares.

4.2. Interpretation of Results

To start with the results of table 2, the mean value of the CSR_SCORE is 1.116189. This indicates that 111% of a rare Greek listed company has probably CSR activities, which is a big percentage. The EIT mean is 0.008759, which means that 0,8% of the companies have earnings management when they operate CSR activities. Regarding the control variable ROA, 1% of a Greek listed firm is non-profitable when it operates CSR activities. Additionally, we have noticed that some companies for specific years have EIT=0. This happened because this specific period companies had not any profits. The aforementioned data demonstrate that CSR companies and earnings management have a positive association but CSR is not vastly known in Greek listed firms.

The analysis of Table 3 indicates that there are some meaningful correlations between the variables. In specific, the correlation coefficient between the independent variable CSR_SCORE and the dependent variable EIT is -0.156, implying that a 1% increase in a firm's CSR score will cause an -0.156 decrease in the EIT which shows that earnings management raises. As a result, this means that CSR companies presented to have more financial transparency while their CSR score is low. On the other hand, a positive correlation in MB and EIT (0.042) shows that as the company's size is growing its EIT increases by 1%, the earnings management increases by 4%. Moreover, CSR_SCORE is positively correlated with ROA, SOLR, CRIF_SCORE, ENT_VALUE and SIZE variable which implies that a 1% increase in these variables could generate the corresponding (depending on the correlation coefficient of each variable) increase in the level of CSR activities. Lastly, we should be referred to the fact that as far as the correlation coefficients are, in general, below the 0.9 threshold, there will be no serious statistical consequences concerning multicollinearity.

Regarding table 4, analyzing the outcome we can observe that the variable CSR_SCORE has coefficient 0.013930 and probability of 0.0000, which means that it is statistically significant. The fact that the coefficient of the independent variable CSR_SCORE is positive shows that as much as the Corporate Social Responsibility is being established in a Greek firm, the more possible is the company to have earnings management. Our findings are not in accordance with these of Kim et. Al. (2012), because their research ended up that socially responsible firms do not manage their earnings. Nonetheless, this analysis concerns a U.S. sample. There are two potential reasons why is happening that. First of all, Greece has not manage to control the companies in a strict way, so many firms can avoid the transparent reporting of their financial results. Secondly, CSR is a new issue for Greek companies. The majority of them, as we stated in the introduction, imitate global companies and this results to an ignorance in the way they could reflect their profits in an appropriate manner. The same is true for MR variable, too. With regards to the probabilities of ROA and CRIF_SCORE variables, we can understand that they are not statistically significant, which means that there is not any change in the earnings management of Greek firms.

Lastly, the coefficients SOLR, REPRISK and ENT_VALUE are negative and statistically significant, so the higher they are the less prone to earnings management. Lastly R-squared has a value of 0.602494 or 60%, which is high. Generally, if this indicator is high, the data are more suitable for our model.

Referring to the Table 5, it consists of the conclusions of the model (2), which in addition analyzes the hypothesis between the previous variables but instead of MB we use the SIZE variable. As we noticed from the table, the coefficient of control variable CSR_SCORE is positive, the same with the model (1) and in both cases is statistically significant at 5%. In specific, it is witnessed again a positive relationship between the two variables (CSR_SCORE and EIT). Additionally, SIZE has coefficient - 0.000158 and probability 0.0005. As a result, its coefficient has negative sign and is statistically significant. Considering all these facts, we can conclude that the higher the SIZE, the lower earnings management. Meaning that the bigger the company, the less the possibility of having earnings management. Our results are contradictory with our first hypothesis regarding the size of the firm and the results of Prior et al. (2008) which are in favor of a negative association between CSR and earnings management. Regarding to the variables SOLR and REPRISK we can conclude that they have a negative coefficient and they are statistically significant at 5%. More specifically, it means that when these two elements increase the CSR_SCORE declines due to the negative coefficient together with the earnings management.

Conclusive, in model (1), CSR_SCORE and MB variable influence in a positive way the EIT and consequently the earnings management. In model (2) the CSR_SCORE has still a positive coefficient but SIZE which is the replacement of MB a negative one, but still they are statistically significant at 5%, which means that they have a strong association with the dependent variable but SIZE influences earnings management in the opposite way. Last but not least, R-squared of the second model is 0.601918 (60%), really close to model's (1). This indicates that all the mean variables will be a little lower than they are in model (1).

5. CONCLUSIONS

This study targets to the analysis of the association between CSR and Earnings Managements in Greek listed firms. Additionally, we measured how deep influenced will be earnings management in comparison with the size of the firm. Applying to an extensive sample of Greek listed firms, we used two different models, which are slightly different, in the first case (model 1) we found out that there is a positive association between earnings managements and CSR practices. This association also depends on the book value of equity. Additionally, we have made a comparison with other components like the ROA ratio, the Solvency Ratio, the credit level of the firm or the level of these CSR activities, discovering that if we add these, the outcome will be different. Model (2) indicates that there is also a positive association between CSR and earnings management. These results stem from the fact that we preferred to hold stable all the variables and replace MB with SIZE variable. This model also gives us a proof that earnings management and Corporate Social Responsibility are positively correlated. Certain variables improve the transparency of financial reporting leading to the positive impact of CSR on earnings management.

Our research adds value to the existing literature about the nature of this association because it takes place at a local setting, namely Greece. Our results might be applicable to countries, which are in an early phase, concerning the adaption of CSR in their strategies and similar financial entities like Greece's has. This kind of relationship varies across companies with different strategies, size, financial situation and administration. Evidences also have been provided regarding the specific CSR element that plays a major role to the association between CSR and earnings management.

Nonetheless, our study is subject to many limitations. The first one, is the fact that it relies in a small sample, because we examine a small country but the main reason is that many companies are not listed in Athens Stock Exchange or have

been excluded from our sample due to lack of CSR activities. As far as the global economic crisis is concerned, specifically in Greece, during the years (2011-2016) which we examine, there are many companies which have been delisted or their shares are under momentary suspension or even surveillance. Additionally, our model (1) & (2) composed of control variables, which have been used before in many alike studies. Despite all these facts, we are sure that there is a quite big number of substitutes or alternatives, which would be worthy to analyze. Taking into consideration different variables, we would be able to draw various conclusions regarding CSR and how it influences earnings management and in what extent. Moreover, an additional limitation is that we chose as a second model (2) to replace MB with SIZE variable and we did not try any extreme changes. If we examined more dependent variables or other more extreme cases, we could be in a better position to come to a more definite conclusion.. In addition, the combination of different control variables in our models results in the mixing results, which provide 'roads' for further investigation. Coming researches should test a bigger number of years and be able to use a broader sample regarding size as well as content. Lastly, future studies should consider other aspects of CSR practices, which influence the financial reporting and the way these financial reports are presented depending on the nature of the company or the substance of Corporate Social Responsibility.

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Appendix A

Calculation of Earnings Management proxies

Discretionary Accruals

In accordance with DeFond and Subramanyam (1998), as well as Kothari et al. (2005), we run the cross-sectional regression model in an annual basis, having as a result residuals, which are every firm's discretionary accruals. In order to improve the accuracy of our results, we also included ROA_{t-1} in the converted Jones model. Particularly, we calculate the below regression:

$$TA_{it} / A_{it-1} = \alpha_0 (1 / A_{it-1}) + \alpha_1 (\Delta REV_{it} - \Delta REC_{it}) / A_{it-1} + \alpha_2 PPE_{it} / A_{it-1} + \alpha_3 IBT_{it-1} / A_{it-1} + \epsilon_{it},$$

Where:

TA_{it} = total accruals for a firm i at year t;

ΔREV_{it} = change in net revenues in year t from year t-1;

ΔREC_{it} = change in net receivables;

PPE_{it} = gross property, plant, and equipment;
 $IBTi_{t-1}$ = income before tax at year t-1; and
 Ai_{t-1} = lagged total assets.

Appendix B

Definition of variables

Variables Definition	
Variable	Definition
EIT	absolute value of discretionary accruals where discretionary accruals are computed using the modified Jones model including
CSR_SCORE	it measures the level of corporate social responsibility inside the firm
CRIF_SCORE	give us indications about the credit level of the firm
SIZE	the market capitalization which depicts the size of the firm
REPRISK_CURRCPYRRI	it shows the level of corporate social responsibility in every firm
ROA	it is measured as net income divided by total assets
SOLR	is the solvency ratio and measures firm's ability to meet its debt
MB	market-to-book equity ratio, measured as MVE/BVE, where BVE is the book value of equity
ENT_VALUE	it is the enterprise value of the company
SIZE	the natural logarithm of the market value of equity

